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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,689	03/29/2005	Willem Marie Julia Coene	NL 020929	8418

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BRIARCLIFF MANOR, NY 10510

EXAMINER

GIESY, ADAM

ART UNIT

PAPER NUMBER

2627

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DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/529,689

**Applicant(s)**

COENE ET AL.

**Examiner**

ADAM R. GIESY

**Art Unit**

2627

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-21 is/are allowed.
- 6) ☒ Claim(s) 22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/GS/US)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the rectangular boxes shown in Figure 1 should be provided with descriptive text labels. For example, providing element 40 of Figure 1 with a "Signal Processing" label is suggested.

### ***Specification***

2. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

#### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if

the required "Sequence Listing" is not submitted as an electronic document on compact disc).

### ***Claim Objections***

3. Claims 1-22 are objected to because of the following informalities:

In claim 1, line 9 of the claim should be changed from "... received HF signal values..." to --... received high frequency (HF) signal values...--.

In claim 17, line 9 of the claim should be changed from "... received HF signal values..." to --... received high frequency (HF) signal values...--.

In claims 1-22, all claims should begin with an article ('A' or 'The'). Examiner recommends correcting as appropriate.

In claims 1-22, all instances of the word "initialisation" should be changed to --initialization--.

In claims 1-22, all instances of the word "neighbouring" should be changed to --neighboring--.

In claims 1-22, all instances of the word "fulfil" should be changed to --fulfill--.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 101***

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claim 22 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 22 is drawn to a "computer program" *per se*, therefore, fail(s) to fall within a

statutory category of invention.

A claim directed to a computer program itself is non-statutory because it is not:

A process occurring as a result of executing the program, or

A machine programmed to operate in accordance with the program, or

A manufacture structurally and functionally interconnected with the program in a manner which enable the program to act as a computer component and realize its functionality, or

A composition of matter.

***Allowable Subject Matter***

6. Claims 1-21 are allowed over the prior art of record.

Independent claim 1 is allowed since the claim recites a bit detection method for detecting the bit values of bits of a channel data stream stored on a record carrier, wherein the channel data stream resides on an N-dimensional lattice of bits and comprises a plurality of contiguous bit units, each bit unit comprising at least one bit, wherein bit detection for the channel data stream is performed by an iterative procedure, each iteration being carried out on the basis of said bit units, wherein the bit values of the bits of said bit units are detected by said iterative procedure based on the received HF signal values of the bits of said bit units, said method comprising: an initialization step to obtain preliminary bit decisions for the bits of said bit units based on the HF signal values of said bits, an updating step to update the bit values of the bits of said bit unit to be updated by searching for the bit values of each of the bits in said bit

unit to be updated that best fulfill a predetermined criterion for said bit unit to be updated, said criterion being determined by the differences of the HF signal value and a reference HF signal value for each single bit of said bit unit to be updated, wherein said reference HF signal value is determined by the bit value of said single bit in said bit unit to be updated and by the bit values of the neighboring bits of said single bit, and an iteration to iterate said updating step until a predetermined condition is fulfilled.

Claims 2-16 and 20 are allowed as being dependent upon aforementioned independent claim 1.

Independent claim 17 is allowed since the claim recites a bit detector for detecting the bit values of bits of a channel data stream stored on a record carrier, wherein the channel data stream resides on an N-dimensional lattice of bits and comprises a plurality of contiguous bit units, each bit unit comprising at least one bit, wherein bit detection for the channel data stream is performed by an iterative procedure, each iteration being carried out on the basis of said bit units, wherein the bit values of the bits of said bit units are detected by said iterative procedure based on the received HF signal values of the bits of said bit units, said bit detector comprising: an initialization means for obtaining preliminary bit decisions for the bits of said bit unit based on the HF signal values of said bits, an updating means for updating the bit values of the bits of said update bit unit by searching for the bit values of each of the bits in said update bit unit that best fulfill a predetermined criterion for said update bit unit, said criterion being determined by the differences of the HF signal value and a reference HF signal value for each single bit of said update bit unit, wherein said

reference HF signal value is determined by the bit values of said single bit in said update bit unit and by the bit values of the neighboring bits of said single bit, and an iteration means for iterating said updating of said bit values until a predetermined condition is fulfilled.

Claims 18, 19, and 21 are allowed as being dependent upon aforementioned independent claim 17.

The closest prior art by Coene (USPN 6580766) discloses an apparatus for detecting bits in a data stream sample by using a PRML method. Coene does not disclose initializing the device based on the high frequency signal values or updating the bits values based upon the differences between high frequency signals and reference high frequency signals.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Coene et al. (USPN 7111225) discloses a Viterbi detection device for detecting bit values in a channel data stream of an optical disc.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ADAM R. GIESY whose telephone number is (571)272-7555. The examiner can normally be reached on 8:00am- 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne R. Young can be reached on (571) 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2627

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ARG 8/11/2010

/Adam R. Giesy/  
Examiner, Art Unit 2627